



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,307	02/07/2005	Walter Gentile	411076.00014	6445
26710	7590	08/23/2007	EXAMINER	
QUARLES & BRADY LLP			KURR, JASON RICHARD	
411 E. WISCONSIN AVENUE				
SUITE 2040			ART UNIT	PAPER NUMBER
MILWAUKEE, WI 53202-4497			2615	
			MAIL DATE	DELIVERY MODE
			08/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/524,307	GENTELE, WALTER	
	<b>Examiner</b> Jason R. Kurr	<b>Art Unit</b> 2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 23 July 2007.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1 and 3-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1 and 3-12 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application |
|  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 23, 2007 has been entered.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-4 and 6-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akiyama et al (US 6,057,659) in view of Combest (US 5,937,072).

With respect to claim 1, Akiyama discloses a loudspeaker arrangement in a device (fig.1) for playback of stereophonic audio signals with a housing (fig.1 #11a) arranged in the device, a loudspeaker for bass signals (fig.1 #14, col.3 ln.31-34) and loudspeakers for mid-range and treble signals (fig.1 #17,18, col.4 ln.14-19), in which crossover networks (fig.8 #62,65,68) separate the stereophonic audio signals for

playback with loudspeakers into a bass signal and mid-range and treble signals, characterized by the fact that the crossover networks have a crossover frequency higher than a cut-off frequency of the loudspeaker for bass signals (col.8 ln.7-38).

Akiyama does not disclose expressly wherein the loudspeaker device (fig.1 #14) for bass signals is a sub-woofer and wherein the crossover frequency of the crossover networks is a non-consumer-controllable frequency of about 350Hz.

Combest discloses a crossover network (fig.3) for a loudspeaker system including a subwoofer (fig.3 #16), wherein the crossover frequency of the crossover network is a non-consumer-controllable frequency of about 350 Hz (col.6 ln.6-14).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use a fixed crossover frequency of about 350Hz in the invention of Akiyama as taught by Combest.

The motivation for using the crossover methods of Combest would have been to appropriately supply the low frequency speaker with a frequency range of signals that best fits the speaker's physical parameters. This would ultimately improve the frequency response of the entire sound reproduction system.

With respect to claim 3, Akiyama discloses the loudspeaker arrangement according to claim 1, wherein the loudspeakers for the mid-range and treble signals and the sub-woofer loudspeaker for the bass signals have their own closed partial housing (fig.1 #11,22).

With respect to claim 4, Akiyama discloses the loudspeaker arrangement according to claim 3, wherein the housing is a single housing (fig.1) having a plurality of

Art Unit: 2615

housing compartments (fig.1 #11,22), and wherein housing compartments for the loudspeakers for the mid-range and treble signals and a housing compartment for the sub-woofer loudspeaker for bass signals are separated from each other by chambers (fig.1 #21,28) within the single housing.

With respect to claims 6 and 7, Akiyama discloses the loudspeaker arrangement according to claim 1, however does not disclose expressly the volumes of the speaker housings. At the time of the invention it would have been obvious to a person of ordinary skill in the art to make Akiyama's housing volumes of substantial size whether it be 0.5-1.5 L for the bass speaker or 0.04 L for the treble/midrange speakers. The motivation for doing so would have been to properly reproduce quality acoustic signals by supplying a volume capable of containing speakers of a certain size.

With respect to claim 8, Akiyama discloses the loudspeaker arrangement according to claim 1, however does not disclose expressly wherein the loudspeakers for the mid-range and treble signals have a distance from each other of 150-500 mm. Akiyama does disclose the distance as being between 300-700mm (col.2 ln.6-9). At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the invention of Akiyama to include a minimum distance of 150 mm. The motivation for doing so would have been to minimize the size of the apparatus, thus making it more portable.

With respect to claims 9 and 10, Akiyama discloses the loudspeaker arrangement of claim 1, however does not disclose expressly the power being supplied to the loudspeakers. Official Notice is taken that the concept of supplying speakers with

Art Unit: 2615

appropriate power, such as 5-16 watts or 3-7 watts is well known and expected in the art. It would have been obvious to supply the speakers of Akiyama with power in the disclosed ranges in order to allow the speakers to operate in peak conditions.

With respect to claim 11, Akiyama discloses the loudspeaker arrangement according to claim 1, wherein the loudspeaker arrangement is a component of an entertainment electronics device (col.2 ln.10-15).

With respect to claim 12, Akiyama discloses the loudspeaker arrangement according to claim 1, however does not disclose expressly wherein the loudspeaker arrangement is a component of a monitor or computer. Akiyama discloses in column 2 lines 10-15 the capability of connecting the apparatus to a tape recorder or CD player. Official Notice is taken that it is well known in the art that external audio devices can be connected to computers for the purpose of acting as the computers sound system. At the time of the invention it would have been obvious to a person of ordinary skill in the art to user this connection to interface with a computer or monitors audio output. The motivation for doing so would have been to provide a portable speaker device for portable computing devices such as laptops.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akiyama et al (US 6,057,659) in view of Combest (US 5,937,072) and in further view of Kobayashi (US 4,044,855).

With respect to claim 5, Akiyama discloses the loudspeaker arrangement according to claim 4, however does not disclose expressly wherein at least one of the

chambers and the partial housings are acoustically damped. Kobayashi discloses a loudspeaker device wherein the acoustic chamber of the loudspeaker is acoustically damped (col.1 ln.20-37). At the time of the invention it would have been obvious to a person of ordinary skill in the art to use the acoustic dampening methods of Kobayashi in the speaker chamber of Akiyama. The motivation for doing so would have been to increase the apparent inner volume of the chamber, thus improving the bass characteristic of the speaker as taught by Kobayashi.

### ***Response to Arguments***

Applicant's arguments filed July 23, 2007 have been fully considered but they are not persuasive.

Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason R. Kurr whose telephone number is (571) 272-0552. The examiner can normally be reached on M-F 10:00am to 6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (571) 273-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2615

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JK

JK

  
VIVIAN CHIN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2200